

**CLAIMS:**

1. Method for coding a stream of input words using a channel code, comprising the steps of

- coding the stream of input words into a stream of precoded input words
- coding the stream of precoded input words into a stream of groups of N code words

characterized in that a running digital sum of each group of N code words equals zero.

2. Method as claimed in claim 1, characterized in that N equals 2.

10 3. Method as claimed in claim 1 or 2, characterized in that after the step of coding the stream of precoded input words into a stream of groups of N code words the method comprises the step of storing the groups of N code words using a groove position modulation on a storage medium

15 4. Method as claimed in claim 1, 2, or 3, characterized in that coding the precoded stream of input words is achieved using a parity preserving coder.

5. Method as claimed in claim 1, 2, or 3, characterized in that coding the precoded stream of input words is achieved using a parity inverting coder.

20 6. Method as claimed in claim 4 characterized in that the parity preserving coder is a 17PP coder

25 7. Method as claimed in claim 6, characterized in that the stream of M input words is precoded using the following table:

In	Out
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00	1010
01	0001
10	0111
11	0101
5 1010	00001000

8. Method as claimed in claim 6, characterized in that the stream of M input words is precoded using the following table:

	In	Out
00	->	10 10
10	->	00 01
11	->	01 11
15 01	->	01 01
11 11	->	00 00 10 00

9. Method as claimed in claim 7 or 8 , characterized in that before the step of storing the groups of N code words in using the groove position modulation on the storage medium remaining DC components are removed using a high-pass filter

10. Apparatus for storing data on a recording medium comprising an encoder which arranged for coding the stream of precoded input words into a stream of groups of N code words and comprising a precoder for coding the stream of input words into a stream of precoded input words, characterised in that a running digital sum of each group of N code words equals zero.

11. Apparatus as claimed in claim 10, characterized in that N equals 2.

30 12. Apparatus as claimed in claim 10 or 11, characterized in that the apparatus is arranged for storing the groups of N code words using a groove position modulation on a storage medium

13. Apparatus as claimed in claim 10, 11, or 12, characterized in that the encoder

is a parity preserving coder.

14. Apparatus as claimed in claim 10, 11, or 12, characterized in that the encoder  
is a parity inverting coder.

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15. Apparatus as claimed in claim 13, characterized in that the parity preserving  
coder is a 17PP coder

10 16. Apparatus as claimed in claim 15, characterized in that the precoder is  
operative to precode the stream of M input words using the following table:

	In	Out
	00	1010
	01	0001
15	10	0111
	11	0101
	1010	00001000

20 17. Apparatus as claimed in claim 15, characterized in that the precoder is  
operative to precode the stream of M input words using the following table:

	In	Out
	00 ->	10 10
25	10 ->	00 01
	11 ->	01 11
	01 ->	01 01
	11 11 ->	00 00 10 00

30 18. Apparatus as claimed in claim 16 or 17 , characterized in that the apparatus is  
operative to remove remaining DC components using a high-pass filter before storing the  
groups of N code words using the groove position modulation on the storage medium.

19. Record carrier comprising a stream of M input words stored as a stream of groups of N code words, characterized in that a running digital sum of each group of N code words equals zero.

5 20. Record carrier as claimed in claim 19, characterized in that N=2

21. Record carrier as claimed in claim 19 or 20, characterized in that the groups of N code words are stored using a groove position modulation

10 22. Record carrier as claimed in claim 19, 20, or 21, characterized in that the stream of M input words is precoded using the following table:

In	Out
00	1010
15 01	0001
10	0111
11	0101
1010	00001000

20 23. Record carrier as claimed in claim 19, 20, or 21, characterized in that the stream of M input words is precoded using the following table:

In	Out
00	1010
25 10	0001
11	0111
01	0101
1111	00001000

30 24. Method for decoding a stream of N code words into a stream of M output words, characterized in that the stream of M output words is postcoded using the following table:

In	Out
1010	00
0001	01
0111	10
5 0101	11
00001000	1010

25. Method for decoding a stream of N code words into a stream of M output words, characterized in that the stream of M output words is postcoded using the following  
10 table:

In	Out
1010	00
0001	10
15 0111	11
0101	01
00001000	1111